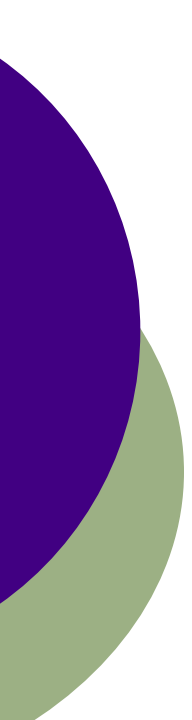




The Wisconsin Department of Public Instruction

An Overview to MDAT the **Multi-Dimensional Analytic Tool**

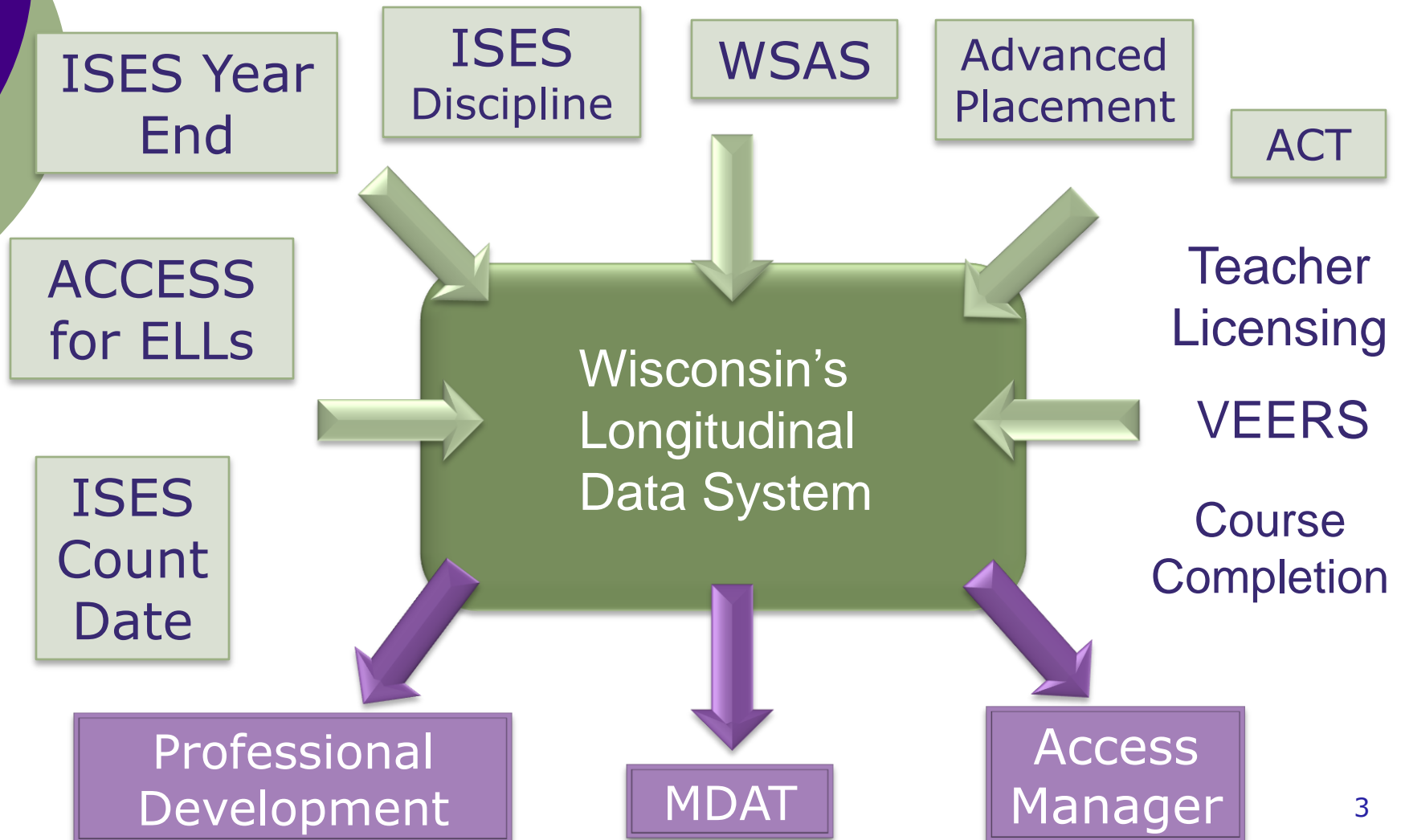




Wisconsin's Longitudinal Data System (LDS)

- The LDS contains many elements:
 - Data Warehouse
 - Reporting Tools (web-based)
 - MDAT
 - Security Applications
 - Access Manager
 - Professional Development
- In the future, the LDS will include:
 - Course completion data (collection)
 - Growth reports (reporting tools)
 - Enhancements to MDAT
 - Career and Technical Education Data

Wisconsin's Longitudinal Data System





What Makes MDAT Unique

- The first analysis tool of the LDS Project.
- Allows users to select variables and filters to answer questions of their choice.
 - These variables and filters may be selected in a variety of combinations to look at different “angles” of a question.
- Users have access to data and variables based on their User Role.
 - So, some users will be able to drill-down to student-level information.
 - Others will look only at summary data.

LDS Access Manager: A Security Solution

- MDAT allows school district officials identified by their school board as having a legitimate educational need to drill down to student-level information
- Federal and Wisconsin laws protect student privacy
 - Wisconsin Statute 118.125
 - Family Educational Rights and Privacy Act (FERPA—34 CFR Part 99)
 - Privacy and Wisconsin's Longitudinal Data System
- DPI's solution to safeguard confidential data: a security tool, or Access Manager



The LDS Access Manager: Overview

- Access Manager is a tool of the LDS, one that manages...
 - Who can *control access* to the applications
 - Who *has access* to certain applications
 - What a user can see/do within an application (*user roles*)
 - Which groups of student data the user can access



User Rights: Tiers of Access

- The District LDS Security Administrator (DLSA) assigns access to personnel in the district authorized as having a legitimate educational need to use data.
 - See [DPI's Pupil Data Privacy Presentation](#) for more information
- Applications may have different tier structures
- MDAT has five tiers



MDAT User Roles

Roles	Role Description
Tier 1	Student level, all variables, download option
Tier 2	Student-level, all variables
Tier 3	Student-level, no economic indicators
Tier 4	Summary* reports, all variables
Tier 5	Summary* reports, no economic indicators

**The summary reports to which you have access may contain small group sizes, and should therefore be treated as confidential.*



MDAT Tiers: Expected Uses

Roles	Expected Uses
Tier 1	Conduct in-depth analysis; combine MDAT downloads with local data
Tier 2	Repeated short-term access to student-level information
Tier 3	Improvement planning; no legitimate need to know economic status
Tier 4	Need for aggregate student level data, no student-level information necessary (reporting)
Tier 5	Data trainings, basic school-level analysis For CESA staff completing district research, school boards, classroom teachers



Variables and Filters

- The MDAT application allows an authorized user to display tables and graphs based upon a variety of variables.
- **Variables** currently include:
 - Subject or Content Areas (reading, math)
 - Demographics (disability status, gender, grade level, race/ethnicity, etc)
 - Mobility factors (FAY status for district or school)
 - Student behavior



Variables and Filters

- Further, the cohort may be broken down more specifically using **filters**.

For Example:

- Specific grade level
- Specific primary disability
- English Language Proficiency level



Variables vs. Filters

○ **Variables**

- Investigate a relationship.
- Compare different ideas (e.g. grade level and English proficiency) within a common metric (e.g. one year change in scale score.)

○ **Filters**

- Define which individuals or groups will be included in the analysis.
- Refine results of your guiding question.



Variables and Filters: Roles and Access

- If your identified role and level of access in the school does not authorize reports that include the variables or filters indicated--
 - Padlocks may appear next to some variables and filters
 - The download option is only available to Tier One users



Interpreting MDAT Data

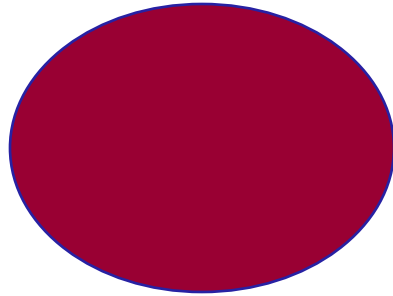
- Data Sources:
 - WKCE scores from WKCE results
 - Other data from WSAS and/or ISES
 - Count Date
 - Year End
 - Discipline Collection
- MDAT uses three years of WKCE data
 - Shows longitudinal cohort growth from one school year to the following school year.
 - Example: change from 2007-2008 school year (November test) to 2008-2009 school year (November test)



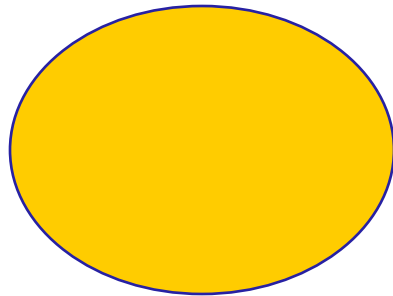
Cautions: N-size

- Accountability (AYP) calculations use 40 as the minimum cell size.
 - **Implication:** Use caution when evaluating data for small groups!
 - Results based on small numbers of students may be useful for identifying individual students meeting certain criteria, but **SHOULD NOT** be generalized to larger groups (e.g., classroom, school, district, or state).

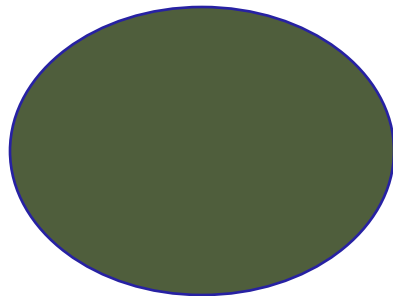
Cautions About Making Generalizations



10 or Fewer Students: Results should not be generalized beyond information about students in group



11-39 Students: Data should be interpreted with caution as group size is still below minimum for confident general analysis



40 or More Students: Confident that results may be generalized to larger populations



Cautions: Scale Scores

- Not all grade levels are expected to show equal growth due to the nature of WKCE scale scores.
 - **Implication:** Users should not try to draw conclusions comparing growth levels between grades.



Cautions: Scale Scores

- One-year change in WKCE scale scores
 - An estimate of student academic progress, not an official DPI growth measure.
- Scale scores are equated over time and across grades, BUT...
 - occasional issues exist for a specific subject/grade/year at the floor (bottom of the minimal range) or ceiling (top of the advanced range) of the test.



Cautions: Mobility

- The Longitudinal Data System tracks all students in Wisconsin public schools.
- **Implication:** Unless you use demographic mobility variables or filters to identify students residing in your school/district for the period of interest, your results may be skewed by mobile students.



Cautions: Implications of fall testing

- Student/school/district values are based solely on the WKCE, administered in November each year.
- The values represent the difference between scores from the selected year and the previous year.
- **Implication:** Growth cannot be directly attributed to a particular year or teacher.



Cautions: Data Privacy

- MDAT data are confidential.
- Even aggregated data can lead to personally identifiable information.
 - When finished with the tool, always LOG OUT and CLOSE ALL BROWSER WINDOWS, regardless of content.
- MDAT records usage
 - So DPI has information about who accesses what student-level information



Using MDAT: Topics to Consider

- Local populations of interest
 - Performing better or worse than state average?
 - What are possible explanations for differences in performance?
 - Is there evidence that strategies were more or less successful for some students or student groups?
 - What are some possible explanations?
- Using MDAT change scores to examine evidence of school/district strategy effectiveness
 - For strategies focused on improving the knowledge and skills as measured by WKCE during the time period between WKCE tests



Interested in MDAT or Access Manager?

STEP ONE:

- You need a WAMS ID!!!
- WAMS=Web Access Management System
 - Once created, your WAMS ID may be used to log in to a variety of DPI and State of Wisconsin applications.
- DPI encourages interested users to sign up for a WAMS ID now.
- For information on WAMS, visit the [LDS Home Page](#), or the [WAMS Home Page](#).



Using MDAT: District Steps

- Superintendent selects a District LDS Security Administrator (DLSA)
 - DPI advocates the use of District Assessment Coordinators for this role.
- Superintendent submits the Superintendent Authorization Form.
- DLSA determines team to explore the longitudinal data
 - Administrative Team
 - District or Building Level Leadership Team
 - Data Retreat School Improvement Team
 - Curriculum Teams



Multi-Dimensional Analytical Tool

- DPI Continues to evaluate the features of MDAT.
 - It is expected that MDAT will be enhanced as the overall LDS develops into a robust data portal.
- For step-by-step directions to MDAT, click [here](#).
- Questions? Comments?
 - Please email us at LDShelp@dpi.wi.gov.